logue, and the *Coryne Cerberus* withdrawn from it and from the list of British species.

Eudendrium insigne, Hincks.

Since the description of this species was published ('Annals' for August 1861), I have met with it in some abundance at Ilfracombe, and have had the opportunity of making a careful examination of the gonophores. They surround the base of the polype to the number of five or six, and present the same essential structure as those of *Eudendrium rameum,* described and figured by Dr. Strethill Wright (Edin. New Phil. Journ. for Jan. 1859). The ovarian sac contains a single ovum, which is partially enclosed by a looped process derived from the endoderm. This loop overarches the egg and surrounds it, with the exception of its lower extremity, which is in immediate contact with the wall of the sac. The gonophore is convex on both sides, and presents a narrow edge when viewed in front. It differs in form from that of *E. rameum,* which is oval, and in the size of the endodermic band, which in the latter species almost entirely encircles the ovum. The polype of *E. insigne* has the proboscis white and the rest of the body of a dark-red colour.

[To be continued.]

XXXII.—*Report of the Results of Deep-sea Dredging in Zetland, with a Notice of several Species of Mollusca new to science or to the British Isles.* By J. Gwyn Jeffreys, F.R.S., F.G.S.

To the Editors of the Annals of Natural History.

Gentlemen,

Many scientific friends, who did not attend the last Meeting of the British Association, wish to know the result of my dredging expedition to the "far North" of our coast-line; and as the Report will not be published for a long time, will you kindly allow me to satisfy their inquiries by inserting an abstract of the communication which I made to the Association? I am quite aware that I make this request at a late period, and that I can only hope to have a corner of your valuable publication.

I am, Gentlemen,
Yours faithfully,
J. Gwyn Jeffreys.

25 Devonshire Place,
Sept. 24, 1861.

The Report was submitted by the author, as one of the General Dredging Committee, not so much for the sake of announcing his discovery of new species, as of maintaining certain views which he

had ventured to suggest on former occasions with respect to the geographical distribution of the marine fauna of Europe. A yachting excursion which he had taken in the course of this summer, accompanied by two scientific friends, to the northernmost part of the British Isles, together with an examination of the upper tertiaries in Suffolk and Norfolk which he had since made in company with Mr. Prestwich, gave the author a better insight into the scope of such distribution than had resulted from his previous researches, and confirmed his belief that the division into separate areas or "provinces," which had been proposed by so many systematists (all of whom held different opinions as to the extent and limits of such "provinces"), was erroneous, and that the present distribution must be referred to a state of things which has indeed passed away, but left a very distinct impress of its action. The author is inclined to take the Coralline Crag as a starting-point, and to consider the marine fauna of Europe, Northern Asia, the Cis-Atlantic zone of Africa, and part of North America, as having been closely related at a comparatively recent epoch, and as forming one common area of origin. Many species of Mollusca once existed at both extremities of this vast district: *e. g. Mya truncata* and *Buccinum undatum*; and other species hitherto supposed to be restricted to the Mediterranean (viz. *Monodonta limbata* and *Cerithium vulgatum*, with its variety *C. calabrum*) have lately been discovered by Professor Sars on the coasts of Finmark. It is also probable that the recent exploration of the Greenland seas by Otto Torell and others may reveal further instances of a similar kind. Very little has hitherto been done towards the investigation of the Arctic fauna. It by no means follows that an extremely rigorous or "arctic" temperature prevailed in those places where we find the remains of some mollusca which now inhabit only the seas of colder regions, or *vice versâ* that the presence in these regions of fossil shells belonging to species which now inhabit only more southern seas indicates the former prevalence of a warm climate. The temperature of the sea at certain depths is well known to be very equable; and it is only littoral or shallow-water species that would be exterminated or affected by a change of climate. Some kinds appear to be more hardy than others, and to have survived considerable and perhaps frequent changes of temperature; while others have undergone a limited modification of form, and are considered by some naturalists as distinct (or "representative") species. A great deal, however, yet remains to be done, by accumulating facts, and a critical comparison of recent with fossil species, before a complete or satisfactory theory of distribution can be established.

Mr. Jeffreys contrasted his experience of this dredging expedition with those he had made to other parts of the British coasts as well as to the Mediterranean, and also with the accounts he had received of similar expeditions to the coasts of Norway and Sweden—showing the far greater difficulties which attended an exploration of our northernmost sea, by reason of the variable and often tempestuous weather, and of that line of coast being unsheltered from the prevailing winds. He, however, succeeded in procuring three species

of Mollusca new to science, which he proposed to name *Margarita elegantula*, *Aclis Walleri*, and *Nassa? Haliaëti*, besides twelve other species which were new to the British Isles. Of these last, ten are Scandinavian, one is Mediterranean, and the other had hitherto been known only as a Crag fossil. He reserved the description and particulars of these species for a work on British Conchology which he had undertaken. He ascertained that the Gulf Stream never impinges on any part of the coast which he had examined, although the climate was temperate.

The author noticed the occurrence at considerable depths (nearly 80 fathoms) of living Mollusca which usually inhabit the shore or very shallow water, viz. *Lamellaria perspicua*, *Nassa incrassata*, and *Cypræa europæa*, all of them being widely diffused species,—thus apparently illustrating the view entertained by the late Professor Edward Forbes, that those species which have the widest horizontal range have the greatest vertical depth. Judging, however, from the great depth at which he found the fossil shells of some Mollusca (*e. g. Pecten Islandicus* and *Mya truncata* var. *Uddevallensis*) which inhabit much shallower water in the Arctic zone, the author is disposed to believe that the bed of this part of our Northern Sea has sunk since the so-called "glacial" epoch, and that this circumstance may possibly account for the above-mentioned occurrence of sublittoral species at such depths.

With respect to the comparative size of those Mollusca which are common to the seas of the North as well as of the South of Europe, the author referred to an observation made by Mr. Salter, in a recent number of the 'Quarterly Journal of the Geological Society,' that some fossil shells which Mr. Lamont had brought from Spitzbergen were larger than those of the corresponding species in our own mountain limestone; and he remarked that the same rule appears to apply also to marine plants, for he never saw such gigantic fronds of the *Laminaria saccharina*, which fringes all our coast-line, as he did in the voes of North Zetland.

The author concluded by paying a just tribute of respect to the labours of Professors Sars and Lovén, Malm, Mörch, Asbjörnsen, and other Scandinavian naturalists, who were investigating the Mollusca of the Northern seas with a zeal and accuracy worthy of our emulation.

XXXIII.—*On some new Genera and Species of Mollusca from the North of China and Japan.* By Arthur Adams, F.L.S. &c.

Genus Onoba, H. & A. Adams.

Onoba subulina, A. Adams.

O. testa ovato-subulata, alba, rimata, tenui, opaca; spira producta, apice obtuso; anfractibus $4\frac{1}{2}$, convexiusculis, transversim striatis, striis creberrimis, suturis obliquis impressis; apertura oblongo-